1847MNRAS...7..305G

Elements of HEBE. By Mr. Graham.

1847. July 0·0 Greenwich M.T.

	°	′	″	
Mean Anomaly	262	2	16·63	
Perihelion	22	7	26·20	M. Eq. July 0·0
Node	138	32	26·05	
Inclination	14	48	15·21	
φ	10	19	42·56	
Log. Semi-axis Major	0·3761824			
Log. Mean Daily Motion	2·9857330			
Mean Daily Motion	967″·6828			

Sid. Revolution, 1339 mean solar days.

"These elements are deduced from the following observations corrected for aberration and parallax:—

		h m s		R.A. ° ′ ″	Dec. ° ′ ″
1847. July	5	10 12 7·1	Berlin M.T.	256 51 35·4	−4 8 29·2
	11	10 47 15·2	Paris	255 44 31·8	4 47 37·1
		11 17 25·6	Vienna	57·9	36·0
	17	9 19 3·3	Markree	254 51 32·8	−5 31 10·5

"The calculated — observed place for July 11 is

−0″·3 in long. and + 0″·1 in latitude."

Observations of NEPTUNE.

HAMBURG. In the Meridian. (M. Rümker.)

Date.	Hamburg M.T. h m s	R.A. ° ′ ″	Dec. ° ′ ″
July 30	13 35 28·9	331 54 9·0	−12 10 57·8
31	31 27·7	52 48·8	11 30·6
Aug. 1	27 26·1	51 21·9	12 1·7
3	19 22·6	48 27·2	13 10·5
6	13 7 17·4	44 4·2	14 46·6
9	12 55 11·7	39 33·2	16 30·4
11	47 7·5	36 27·8	17 37·7
12	43 5·5	34 55·8	18 14·8
14	35 1·5	31 52·7	19 22·5
16	26 57·1	28 46·2	20 33·8
17	22 55·0	27 10·9	21 8·4
18	18 53·1	25 39·9	21 42·8
19	14 50·7	24 2·2	22 15·3
20	10 48·7	22 31·4	22 54·4
21	12 6 46·6	20 58·7	23 23·5
26	11 46 35·6	13 4·4	27 21·2
28	11 38 31·5	331 9 58·3	27 30·3
Sept. 18	10 13 53·4	330 38 56·1	38 47·5
19	9 52·0	37 31·7	39 17·6
20	10 5 50·9	330 36 12·7	−12 39 48·8

1847MNRAS...7..305G

GÖTTINGEN. In the Meridian. (Professor Gauss.)

	Göttingen M.T. h m s	R.A. ° ′ ″	Dec. ° ′ ″
Aug. 12	12 43 5·9	331 34 57·1	−12 18 12·1
13	39 3·8	33 27·0	18 44·6
14	35 1·3	31 50·0	19 19·5
17	12 22 55·3	331 27 14·1	−12 21 5·0

CAMBRIDGE. In the Meridian. (Professor Challis.)

	Greenwich M.T.	R.A.	Obs.—Cal.	N.P.D.	Obs.—Cal.
1847.	h m s	h m s	s	° ′ ″	″
July 22	14 7 9·4	22 8 19·90	−0·23	102 6 43·3	−1·4
26	13 51 4·7	7 58·81	−0·20	8 46·5	+0·2
27	47 3·3	7 53·27	−0·30		
29	39 0·5	7 42·28	−0·25	10 22·6	+1·8
30	34 59·1	7 36·72	−0·20	10 50·6	−2·2
Aug. 3	18 52·4	7 13·63	−0·37	13 2·1	−1·5
7	13 2 45·3	6 50·11	−0·22	15 16·6	−1·1
9	12 54 41·1	6 37·71	−0·57	16 27·0	+1·2
10	50 39·3	6 31·80	−0·41	16 58·0	−2·0
11	46 37·5	6 25·88	−0·22	17 34·7	+0·2
13	38 33·4	6 13·51	−0·29	18 39·6	−4·0
14	34 31·2	6 7·28	−0·35		
20	10 18·5	5 29·87	−0·38	22 48·0	+0·4
21	12 6 16·2	5 23·50	−0·48	23 23·8	+0·3
23	11 58 11·8	5 10·84	−0·62	24 33·9	+1·6
24	54 9·8	5 4·70	−0·49	25 9·2	+2·0
27	42 3·4	4 45·97	−0·46	26 51·6	+0·2
31	25 54·9	4 21·07	−0·52	29 7·2	−1·6
Sept. 1	21 52·9	4 14·97	−0·45	29 42·9	+0·1
2	17 50·8	4 8·77	−0·50	30 20·3	+3·6
4	11 9 46·9	3 56·59	−0·46	31 26·6	+2·7
8	10 53 39·3	3 32·58	−0·44	33 36·3	+0·4
9	49 37·4	3 26·57	−0·54	34 9·4	+1·1
16	21 25·9	2 46·29	−0·70		
17	10 17 24·7	22 2 41·04	−0·43	102 38 18·4	+1·1

“ The observations of August 9, 13, and Sept. 16, were somewhat uncertain, on account of clouds. The N.P.D. have been corrected for parallax, before comparing with Mr. Adams’s Ephemeris.”

1847MNRAS...7..307B

CAMBRIDGE, U. S. (Professor Bond.)

	Cam.M.T.	R.A.	Obs.—Cal.	Dec.	Obs.—Cal.	No. of Obs.
1847.	h m	h m s	s	° ′ ″	″	
Aug. 18	11 13	22 5 41·75	−0·03	−12 21 42·9	+0·2	4
20	10 11	5 29·36	0·13	22 51·2	−0·5	8
21	10 32	5 22·89	0·25	23 26·5	−0·7	10
23	10 26	22 5 10·40	−0·22	−12 24 37·6	+0·6	6

"The star of comparison is 38 *Aquarii*, B.A.C. 7722; the Ephemeris referred to is that published by Mr. Adams in the *Monthly Notice* of June."

Observations of NEPTUNE *and his Satellite.*

By Mr. Lassell.

Unfavourable weather, and the low altitude of the planet, have not allowed Mr. Lassell to observe the *ring* of *Neptune* satisfactorily; there is, however, no doubt in his mind as to the existence of a ring. The observations of the satellite have been more successful: it has been repeatedly seen in the course of the year, and the non-existence of any star in the places successively occupied by it, frequently ascertained. From the mean of his observations, Mr. Lassell concludes that the satellite revolves about the planet in $5^d\,21^h$ nearly, and that its greatest elongation is somewhere about 18″. The orbit which it appears to describe has a minor axis differing little from the diameter of the planet.

The satellite is much brighter in the preceding than in the following half of its path. The sixth satellite of *Saturn* varies similarly in brightness. This periodical variation seems to shew that one side of the satellite has less power of giving back light than the other, and that the time of rotation upon its axis is equal to its periodic time round the planet, as is the case in our own moon.

The periodic time assigned by Mr. Lassell accounts for all the configurations of the planet and satellite noted by him since his discovery. The observations this year from August 31 to September 6 are quite conclusive as to the existence of the satellite, and may be represented, coarsely, thus:—

		h
August 31	at	9·5
		11·5
Sept. 2		12·1
3		
4		11·5
6		9·0